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Opinion Survey-- Revision and Validation

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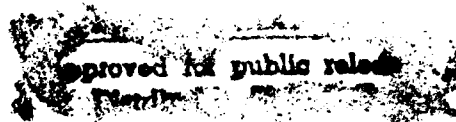
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ABSTRACT
ICAF OPINION SURVEY--REVISION AND VALIDATION
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The Industrial College of the Armed Forces (ICAF) gives its students an opinion survey designed to measure tendency toward dogmatic thinking. The survey--based on the research of Milton Rokeach and modified for ICAF use by John Johns--presents a series of statements about important social, political, and economic issues. Respondents are asked to agree or disagree with each statement. However, the survey had not been validated on a sample group outside of National Defense University. The research problem was that the ICAF Opinion Survey needed to be revised and validated on a sample other than ICAF students.

Dogmatism is the term used to describe a type of thinking characterized by rigid belief systems. Dogmatics can be liberal or conservative--it isn't what one believes but how one believes. Dogmatics accept or reject people and ideas based on rigid and intolerant points of view. Dogmatic thinking becomes a problem when it limits one's ability to receive, evaluate and act on relevant information on its own merit.

I reviewed the ICAF Opinion Survey results from 1989-1992. Using that data, I kept the most valid question items and revised statements which seemed ambiguous or dated. I gave this survey to the Washington D.C. based, headquarters personnel of a nationally recognized conservative group and a liberal group. Statistical analysis of the data showed that some of the survey statements failed to correlate with the respondent's overall score. So, I changed or deleted those statements.

I gave the revised survey to a sample group of National War College (NWC) students. I did a similar statistical analysis, once again modified or deleted "weak" statements, and gave the revised survey to a sample group of ICAF students. My analysis of this survey showed 25 of the 30 statements had high correlations. Three other statements had high correlations in the NWC sample and low correlations in the ICAF sample. Given the mixed results, I kept those three statements and developed two more to produce a final survey for use with next year's ICAF class.

The new ICAF Opinion Survey is an instrument--newly revised and validated--which can identify the existence of dogmatic tendency and measure its direction--conservative or liberal. The statements in the final survey, with the exception of the two new ones, were validated by accepted statistical measurement and analysis on a variety of sample groups. These survey statements, taken individually and as a whole, are good predictors of dogmatic tendency.

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SECTION I

INTRODUCTION

This section provides a brief outline of my research effort. It explains **why** I did the research, provides an overview of the research design, reviews the background behind the research, and highlights the research objective and scope.

Statement of the Problem

The 1993 Industrial College of the Armed Forces' (ICAF) Executive Development Guide states that for ICAF students:

"... 'your major contributing years' as a strategic leader are those ahead of you now... Upon graduation from ICAF, you will be dealing with significantly broader issues... within a more complex, ambiguous, strategic environment (6:1)."

The guide suggests:

"An objective for all of us is to know ourselves well enough to capitalize on our strengths and compensate for our weaknesses... Research has shown that the most effective leaders are those who are keenly aware of their competencies and their impact on people (6:3)."

Finally, the guide states:

"The ICAF program offers several opportunities for you to assess your executive skills, your decisionmaking and problem solving skills... you will be offered several opportunities to receive feedback on your executive skills... assessments (that) will aid you in becoming more aware of your skills, preferences, and developmental opportunities (6:3)."

Among the assessment tools that ICAF employs to measure those executive skills and preferences are the Kirton Adaption Innovation Inventory (KAI), the Strategic Leader Development

Inventory (SLDI), the Myers-Briggs Type Indicator (MBTI) and the ICAF Opinion Survey. The KAI, SLDI and MBTI are all based on current and extensive research. Each has been validated on multiple survey populations. However, the ICAF Opinion Survey is based primarily on the limited and somewhat dated research of Milton Rokeach. Opinion survey statements have been updated but the survey has only been given to ICAF students.

The research problem was that the ICAF Opinion Survey needed revision, validation and standardization on a sample population other than the ICAF student body.

Overview and Organization of the Paper

My research effort focused on revising the ICAF Opinion Survey and giving it to other sample groups. I also determined the survey's validity--whether or not it provides a good measure of dogmatic tendency.

My research report has five sections: an introduction, a review of applicable literature, an explanation of the research design and methodology, an analysis and discussion of the data, and my conclusions and recommendations.

Background

Dr. John H. Johns, ICAF Dean of Faculty and Academic Programs, developed The ICAF Opinion Survey to measure the level of personal dogmatism in individual students. As he points out:

"...There are several personality variables that influence an individual's problem-solving style...The Personal Opinion

Survey measures a personality characteristic, dogmatism, that has enormous implications for decisionmaking. The term 'dogmatism' gained scientific credence largely through the work of Milton Rokeach. In his study of personality differences related to open and closed minds, and authoritarianism and intolerance, Rokeach looked for uniformities and consistencies in the way individuals perceive and judge the world, regardless of differences in ideologies. Thus, people can be dogmatic liberals or dogmatic conservatives, it is not what they believe, but how they believe it (13:4)."

Dr. Johns believes patterns of dogmatic thinking may limit the ability of ICAF students to effectively and impartially evaluate ambiguous or conflicting information. This "bias" in their thinking patterns may adversely affect their decisionmaking.

As Johns points out:

"the feature of the national decisionmaking system that seems to give ICAF students the most trouble is the requirement for compromise and consensus. In a pluralistic democracy with a heterogeneous culture, some students exhibit a high intolerance of views that differ significantly from their own. This intolerance is a product of, among other factors, styles of thinking.

It makes little difference whether one's dogmatic mindset is based on intuition, religion, secular ideology, just plain stubbornness, or ignorance of facts; the result is the same.

Dogma, ideology and faith provide comfort to those who have a strong need for closure and certainty--who are overly anxious with complexity and ambiguity. Such persons tend to be 'belief-seeking' rather than 'fact seeking'. They seek simplistic answers to complex problems.

Senior officials have a professional obligation to ground their frame of reference, or belief system, in a conscious, rational, logical, disciplined thought process. Otherwise, their decisionmaking skills will be flawed. We can't afford that at the national level (13:10-11)."

Fortunately, the dogmatic thinker can learn to become a more open and logical thinker. That learning process must begin with an

awareness of the degree of open or closed mindedness one exhibits.

Objective

The objective of my research was to revise the ICAF Opinion Survey by providing new statements relating to current social, political and economic issues--issues which generate the strongest emotional responses. I gave this survey to nationally recognized conservative and liberal groups which I assumed held strong beliefs on these issues. Following a review of their responses to the survey statements, I gave a second survey--with necessary statement modification--to a sample population of students attending the National War College (NWC). After evaluating their responses, I prepared a third version of the opinion survey. I gave this survey to a sample population of ICAF students. I analyzed their results and prepared a final, revised, validated and standardized survey for use by next year's ICAF students.

Scope

I designed the study to survey a random sample of individuals working for nationally recognized conservative and liberal groups, a random sample of NWC Students, and a random sample of ICAF students. I developed survey statements based on current issues impacting national affairs. I based my survey statement design on the Rokeach model and on the word pair response design used in the MBTI.

Again, the stated purpose of this research was to revise and validate the ICAF Opinion Survey. Prior to more fully discussing my research design and the methodology I used, it's important to lay the foundation for the direction I took with my research. Section II of this paper highlights the theoretical basis for my research on dogmatism.

SECTION II

LITERATURE REVIEW

This section reviews theories regarding the characteristics of dogmatic thinking and its effect on decision making. It also examines theories on belief and disbelief systems, and looks briefly at how values and beliefs are formed. Finally, it highlights some differences between open and closed minded people.

Characteristics of Dogmatic Thinking

Dogmatism is the term used to described a type of thinking and processing of external information. It is characterized by rigid belief systems and value judgments which exclude information which contradicts one's pre-formed view of the world. Milton Rokeach in commenting on dogmatism suggested:

"...It seemed clear that it (ideological dogmatism) referred to a number of things; a closed way of thinking which could be associated with any ideology regardless of content, an authoritarian outlook on life, an intolerance toward those with opposing beliefs, and a sufferance of those with similar beliefs...(and) The relative openness or closedness of a mind cuts across specific content; that is, it is not

uniquely restricted to any one particular ideology...(15:4-6)."

Johns in reviewing dogmatic thinking proposed:

"The concept of dogmatism is complex...In a general sense, however, dogmatism refers to the tendency to have rigid beliefs that are largely based on absolute authority, intolerance of other views of the world and reduction of issues into either/or, or black and white terms (13:4)."

He continues:

"People high in dogmatism tend to have absolute beliefs based on faith in some authority. They uncritically accept authority figures, and glorify and admire them. They tend to hate, vilify and fear those who oppose their admired authority figures. There is a strong belief in the cause espoused by the authority figures and a rejection of opposing causes. Criticism of the cause or decisions and policies of authority figures is condemned and branded as disloyal and subversive. There is a strong belief in the infallibility of the...leaders of the particular cause to which the dogmatic person gives his allegiance (13:4)."

Karl Albrecht in reflecting on improving thinking skills states:

"The difference between the dogmatic, rigid, categorical thinker and the adaptive, creative, and strategic thinker is basically in the ability to escape the imprisoning effects of fixed thinking routines, and to bring to the situation whatever point of view or pattern or mental program is needed to get effective results (1:36)."

Clearly, the problem with dogmatic thinking is not that people have strong views about a given topic, but rather, that they adopt rigid and intolerant points of view about a wide variety of issues. The reliance on absolute authority means that other people and/or ideas are accepted and/or rejected based on their agreement with that authority. The net effect of dogmatic thinking is a narrowing of outlook and a closed belief structure

which doesn't perceive or accept differing opinions as having value or worth.

Why do some people think dogmatically? The answer, according to Rokeach is that their belief/disbelief systems lead them in that direction.

Belief and Disbelief Systems

Milton Rokeach's book, The Open and Closed Mind, serves as the foundation of much of the modern research into belief systems and their effect on dogmatic patterns of thinking. Rokeach states,

"The belief system is conceived to represent all the beliefs, sets, expectancies, or hypotheses, conscious or unconscious, that a person accepts as true...the disbelief system...contains all the disbeliefs, sets, expectancies, conscious and unconscious...that a person...rejects as false (15:33)."

Rokeach suggests that the belief/disbelief dimension has several properties. Among these properties are the coexistence of logically contradictory beliefs within the belief system and, at the same time, a denial of those contradictions. Other properties include the reliance upon authority and the rejection of those who disagree with one's authorities and/or viewpoints.

Where one falls, on a continuum between the belief/disbelief system--regarding these properties--makes one more or less open and/or closed minded. For example, Rokeach suggests that open and closed minded individuals tend to view authority in differing ways. He suggests that open minded people tend to have a rational, tentative reliance on authority while closed minded or

dogmatic thinkers tend toward arbitrary, absolute reliance on authority. He points out:

"When authority is seen to be absolute...it leads to extreme cognitive distinctions between persons as faithful and unfaithful, orthodox and heretical, loyal and subversive, American and un-American and friend and enemy (15:45)."

Finally, Rokeach suggests that closed minded people often selectively avoid contact with stimuli, people, etc. that threaten the validity of their ideology. Such narrowing may be personal or institutional, as achieved by the banning or burning of books (15:49).

In summary, Rokeach suggests that the extent to which a person's system and thinking is open or closed is the extent to which that person can receive, evaluate and act on relevant information received on its own merit, unencumbered by irrelevant factors. He cites example of these factors: unrelated habits, beliefs, power needs, ego motives and the need to allay anxiety, etc. He specifically cites the "pressures...arising from external authority" as an example of external, irrelevant factors which impede an open mind (15:5 and 396-410).

Clearly, values and beliefs are among the factors which influence one's belief/disbelief systems. What part do values and beliefs play in the development of belief/disbelief systems and how are those values and beliefs acquired?

Beliefs and Values

N.T. Feather has written that "...people acquire sets of

beliefs...beliefs which provide normative expectations regarding appropriate behavior (7:536)." One theory posits that these beliefs or values are basically outer manifestations of self-image and one's image of others. These beliefs, formed in individual situations early in childhood, become generalized conceptions and influence attitudes and behaviors in later years (10:140-141).

Rokeach believes values are "...core conceptions of the desirable within individuals and society." He states that values serve as standards or criteria to guide not only action but also: "judgment, choice, attitude, evaluation, argument, exhortation, rationalization and attribution of causality (16:18)."

Our values and beliefs, formed into belief systems can, of course, be very useful in sorting out and dealing with the world. Lee Bolman and Terrance Deal say it this way: "Faced with uncertainty and ambiguity, human beings create symbols to resolve confusion, increase predictability, and provide direction (2:244)."

The concern of researchers like Rokeach, Feather and Hall, and of writers and educators like Albrecht and Johns is that such belief systems may limit the ability of individuals to reason effectively in complex, ambiguous situations. These belief systems, made up of values, stereotypes and other set patterns of thinking, are often formed in early childhood and often have significant--though perhaps unrecognized--emotional strength.

Each person develops sets of beliefs and values and develops belief/disbelief systems. But not everyone becomes a dogmatic or closed minded thinker. What then, are the differences between open and closed minded people?

Differences Between Open and Closed Minded People

Researchers have identified differences between open and closed minded thinkers. Karl Albrecht, in discussing what he calls "mechanical thinkers" identifies the ways mechanical or dogmatic thinking can limit the decision making ability of individuals.

For example:

- "...the mechanical thinker takes considerable pride in his opinions, which he believes to be 'right'... Although he doesn't realize it, each time he voices a sweeping generalization or a dogmatic opinion on some topic, he commits himself to adopt a rigid stand on similar topics. He must, above all, be consistent.
- ...you will notice a singular lack of apparent curiosity. He seldom asks questions...and he seldom seeks new information about his world.
- ...The mechanical thinker hates, more than anything else, to change his mind. New ideas and new points of view bring ambiguity, and the mechanical thinker is allergic to ambiguity.
- ...He may be deeply religious, and if so, he is likely to be highly dogmatic about his religion as being the only 'true' one...Religious leaders love him, political demagogues love him, and advertising copywriters love him, because he is controllable. Ironically, although he takes fierce pride in 'thinking for himself', the mechanical thinker is much more easily manipulated... because he responds automatically to messages designed to trigger his limited repertoire of thought processes.
- ...The mechanical thinker likes slogans, stock phrases, pat answers, and categorical statements that help him to simplify his conception of his world...He does not like shades of gray because they tend to leave situations and issues unresolved...He becomes impatient

(and uneasy) with people who won't commit themselves as dogmatically as he has.

- ...You will probably hear a large proportion of declarative statements, many phrased in dogmatic terms...you'll hear allness terms...all, every, everybody, always, never, nobody, and none...These terms tend to channel his thinking processes into rigid forms, preventing him from expressing--and in fact,--perceiving shades of gray, degrees of things, and comparative aspects.
- ...But probably the single most self-limiting feature of the mechanical thinker's habit pattern, which prevents him from developing his thinking skills any further, is that he simply doesn't use his brain very much unless it's necessary...He is a creature of habit...non-routine thinking is foreign to his habit patterns. (1:39-42)."

Other researchers have suggested that "open persons may feel themselves less bound by rules" (3:405) and that "traditions would generally be favored by those lower in openness (3:404)."

As noted earlier, much of the current research on dogmatic thinking is based on the pioneering theoretical foundation of research by Milton Rokeach. Rokeach believed that value changes and (changes in dogmatic thinking patterns) come about as a result of changes in self-conception or increases in self-awareness (16:26). The dogmatic or mechanical thinker can learn to become a more open, adaptive, and logical thinker. If that dogmatic thinker becomes aware of his or her closed mindedness and if he or she perceives that it limits decisionmaking clarity and effectiveness, then change may occur.

The next section of this paper discusses the development of a survey instrument designed to measure dogmatism. I hope the use of a validated, updated survey will help next year's ICAF class develop self-awareness of their patterns of thinking and of any tendency toward dogmatism in their thinking patterns.

SECTION III

RESEARCH DESIGN AND METHODOLOGY

This section details how I designed my research effort and describes what methodology I used. First, it describes the universe, population, and sample groups I surveyed. Next, it outlines the data collection instrument I developed. It then discusses the development of the interval scale I used in scoring. Then it reviews survey instrument reliability and validity. Finally, it describes the statistical tests I used and the assumptions I made.

Milton Rokeach's interest in dogmatic thinking led him to develop what he called "The Opinionation Scale" (15:80-84). This survey, published in 1960, is shown in Appendix A and presents a series of statements about important social issues. Survey respondents are asked to agree or disagree with each statement.

My research survey was based on this previous research by Rokeach--research later adapted for use at ICAF by Dr. John H. Johns. I developed additional survey items based upon the MBTI.

Therefore, the methodology conventions established in previous research--in particular, relating to survey design--were used so this study could contribute to the continuing measurement of dogmatism at the ICAF.

Description of Universe, Population, and Sample

Universe

The universe consisted of all men and women living in the United States who hold strong opinions on a variety of social, political and economic issues. Those holding such opinions were assumed to be relatively conservative or liberal in their outlook and to hold their opinions with a variety of strength and conviction.

Population

The population consisted of several groupings of people. First, the population chosen for the initial survey statement revision included men and women working at various nationally-recognized liberal and conservative groups with headquarters and/or staff offices in the Washington D.C. area. Second, the population chosen to validate survey statements following initial revision consisted of the 1993 student class at the NWC. Third, the population chosen to validate final survey statements consisted of the 1993 student class at the ICAF.

Selection of Samples

For initial revision and validation of survey statements, I needed a random selection of individuals who--I hoped--had

strongly held opinions on a number of national issues. I contacted several nationally recognized conservative and liberal groups with staff offices in the Washington D.C. area. I described our research effort and asked each group if its members would be willing to participate.

Several groups declined. However, I did get one conservative and one liberal group to agree to take the initial survey. I assured both groups that they would not be identified in the research--they are, therefore, simply identified as a nationally recognized conservative group and a nationally recognized liberal group. After the conservative and liberal groups took the survey, I analyzed the results, identified those statements which generated the strongest responses and opinions, and modified those which did not generate strong responses.

The second sample in my research process was the 1993 NWC class. After they took the survey I again analyzed the results. I identified those statement generating the strongest responses and opinions and modified those which did not generate strong responses.

The final sample in the research process--when final validation of the opinion survey was completed--was a representative group of 32 students in the 1993 ICAF class.

Data Collection Instrument/Question Type

Dr. John H. Johns--using the Rokeach survey as a baseline--modified the opinion statements for ICAF use and developed the ICAF Opinion Survey in 1988 and updated it each subsequent year. I revised his survey, found in Appendix B, for this research project. A copy of the initial revision is in Appendix C.

Opinion Survey Design

Dr. Johns' ICAF Opinion Survey has been given to multiple ICAF classes. I reviewed the results of the 1989, 1990, 1991, and 1992 opinion surveys. Using that data, I identified those statements clearly differentiating conservative and liberal opinions. Using this analysis, I picked from the available 46 item pool, the 30 items that best predicted (highest correlation) overall conservative or liberal survey scores.

Next, I modified those 30 items. In some cases the topic statements were somewhat dated. In other cases the wording of the statements seemed ambiguous to some of the researchers and to some of the students in the 1993 ICAF class who last took the survey.

I therefore modified the existing statements or developed new statements which covered a broad number of national issues and concerns. I developed 12 statements regarding social issues, 10 statements dealing with political issues, and 8 statements dealing with economic issues. I would have preferred to have an

equal number of statements in each area. However, I discovered (after giving the survey several times) that social issues generated the most controversy and provided the best differentiation among sample groups. Appendix F is a table showing which statements in the final survey fell into the social, political, and economic categories.

Consistent with the Rokeach and Johns' model, I wanted to provide a balanced set of statements. So, I did what Rokeach and Johns did and alternated statements--first offering one with a liberal bias and then one with a conservative bias. Thus, while the 30 statements are each designed to be "opinionated", they are "balanced" in terms of alternating ideological content.

I also followed the Rokeach and Johns' models in statement development by incorporating "opinionated rejection" and "opinionated acceptance" statements. Rokeach states:

"Opinionated rejection refers to a class of statements made by a speaker which imply that the speaker rejects a particular belief, and, at the same time, that he rejects people who accept it. Consider, for example, a person making the following statement: 'Only a simple-minded fool would say that God exists.' This statement gives us two kinds of information about the person making it: (1) It implies that the speaker rejects belief in God, and (2) he also rejects people who believe in God; they are 'simple-minded fools (15:80-81)."

Rokeach also describes another type of statement as:

...opinionated acceptance... refers to a class of statements that imply the speaker believes something and, along with this, accepts others who believe it too. Consider the example: 'Any intelligent person will tell you God exists.' This assertion also yields two kinds of information: (1) The person making it believes in God, and (2) he accepts those who agree with him as 'intelligent.' But notice the string

attached to his accepting others. The statement carries the implication that you are no longer 'intelligent' at the moment you have a change of heart (15:80-81)."

I included opinionated rejection and acceptance features into my survey statements because Rokeach found:

"The more closed the belief-disbelief system, the more will authority be seen as absolute and the more will people be accepted and rejected because they agree or disagree with one's belief-disbelief system (15:77)."

Appendix F shows which questions in the final survey are opinionated rejection and which are opinionated acceptance.

Word Pair Items

I also used a series of 12 word pairs--asking survey respondents to identify which word in each pair appealed more to them. The MBTI uses word pairs in its survey instrument and reports high correlation between its predicted psychological types and behavior predicted by other instruments. The MBTI predicts a high correlation between measurements of: introverted attitude, judgmental orientation, and sensing perception, with the closed mindedness measured by the Rokeach Dogmatism Scale (14:175-187). Based on that predicted high correlation, I selected 12 word pairs--patterned on the MBTI model--I believed would differentiate between dogmatic and open-minded thinkers.

Thus, my initial survey had a series of 30 statements expressing views about a variety of social, political and economic issues. Respondents could agree or disagree with each one. And, my

survey had a series of 12 word pairs--with respondents being asked to pick a preferred one.

Development of Interval Scales

Survey instrument statements and word pairs solicit data responses that are interval in nature; that is, a common and constant unit of measurement is used which assigns a real number to answers in an ordered set and employs an arbitrary zero point. However, the zero point does not represent the complete absence of the attribute under consideration. Cardinality in scaling is assumed on the basis that equally-appearing intervals are equal (11:70-76).

Instrument Reliability

A reliable survey instrument is one which will "...yield consistent, repeatable results (4:33)." Reliability, then, is an indication of the extent to which a measure contains variable error (12:289). As Helmstadter points out, questionnaire length tends to influence reliability. The more questions asked, the closer a questionnaire can come to measuring the true amount of that attribute possessed by a respondent (12:289).

For the purposes of my research, the attribute being measured was dogmatism. So, even though my thirty statements varied in the following ways:

- the number of questions per national issue asked in my survey ranged from eight to twelve,
- fifteen statements were "opinionated acceptance" and fifteen statements were "opinionated rejection" statements,

- fifteen statements presented liberal opinions and
fifteen statements presented conservative opinions;

all thirty statements were designed to measure two attributes--
the degree and direction of dogmatism in each respondent.

Therefore, I have a fairly high level of confidence in the
reliability of my survey instrument. However, Helmstadter also
cautions that when evaluating measurements of reliability the
content of the test and the test measurement method should be
considered. Questionnaires designed to solicit feelings and
attitudes tend to produce low reliability measures because of the
fluctuating nature of attitudes and feelings (12:283-284).

Instrument Validity

In discussing validity, Emory states that "The...validity of a
research is its ability to measure what it aims to measure
(5:120)." The statements and word pairs used in this study were
based on previous research. Therefore, a certain amount of face
validity can be attributed to the questionnaire.

The evaluation of the survey instrument by faculty members who
teach ICAF's Strategic Decisionmaking (SDM) Course and who are
experienced users of the Opinion Survey lends a logical validity
to the survey instrument. Logical validity results from
extensive subjective evaluation of an instrument by experts to
determine if the questions and number of questions are adequate
to measure a trait (12:298).

Statistical Test

I asked survey respondents to record their answers on standard mark-sense scanner answer sheets. Responses were read into a data file. I developed descriptive statistics from this file using the standard Statistical Package for the Social Sciences (SPSS) computer programs.

Survey respondents indicated a choice by marking the answer sheet on a sliding scale of agreement/disagreement, shown below.

a-----b-----c-----d-----e-----f

I agree very much	I agree on the whole	I agree a little	I disagree a little	I disagree on the whole	I disagree very much
----------------------	-------------------------	---------------------	------------------------	----------------------------	-------------------------

Numerical values were given to each answer based on the following system:

The even-numbered statements (2, 4, 6, etc.) were the conservatively-biased statements. Thus, I expected conservatives to **agree** and liberals to **disagree** with those statements. For even-numbered statements, an "a" answer scored a +3; a "b" answer scored a +2; a "c" answer scored a +1; a "d" answer scored a -1; a "e" answer scored a -2; and a "f" answer scored a -3.

The odd-numbered statements (1, 3, 5, etc.) were the liberally-biased statements. Thus, I expected liberals to **agree** and conservatives to **disagree** with those statements. For odd-numbered statements, an "a" answer scored a -3; a "b" answer scored a -2; a "c" answer scored a -1; a "d" answer scored a +1; an "e" answer scored a +2; and a "f" answer scored a +3.

Therefore, if a respondent answered each statement in the most dogmatic and conservative way possible, his or her score would be a +90. And, if a respondent answered each statement in the most dogmatic and liberal way possible, his or her score would be a -90. Thus, the expected range was from +90 to -90. This range

is particularly important in measuring the strength of individual dogmatism in the survey sample groups.

I was also interested in the mean scores of the sample groups. This mean was calculated from "ungrouped scores" by adding the total scores and dividing that sum by the number of respondents (8:28). In addition to the mean, I measured the standard deviation in order to provide "...the most stable measure of variability (8:51)." Standard deviation was calculated by taking the square root of the summed scores (squared) divided by the number of respondents (8:52).

The final statistical test I was interested in was the measure of validity. Ghiselli cites the American Psychological Association, "(V)alidity refers to the appropriateness of inferences from test scores or other forms of assessment (9:267)." Ghiselli adds:

"...Given a set of specific questions we want a psychological measure to help answer, how useful or appropriate (that is, valid) are the answers (that is, the information) provided by the test scores?...For example, how valid is a measure for predicting (that is, inferring) future job success? How valid is a measure for assessing an individual's degree of dominance...(9:267)?"

For my research, the question is how useful or appropriate is each survey statement in predicting or inferring dogmatic tendency. A high positive correlation of individual survey statements with the overall respondent's score would demonstrate the predictability of each statement. I used the Pearson product-moment correlation analysis to examine this predictive capability. The combined total correlation statistics--when all

the statements are taken together--demonstrate how useful or appropriate the total survey is in predicting or inferring dogmatic tendency.

Assumptions

My research assumptions are:

- Selected samples are representative of the population under study.
- Definitions and assumptions from supportive research studies are valid and reasonable.
- Respondents were assured their responses would be anonymous and used to enhance ICAF student education. The survey results are assumed to be accurate.

During the course of my research, it was necessary to modify the research plan slightly. These changes and the reasons for them are documented in the next section

SECTION IV ANALYSIS AND DISCUSSION OF THE DATA

Data Collection

In attempting to carry out the research design described in Section III, I encountered several problems requiring modification of both the survey instrument and the planned sample. These problems and their resolution are described in this section. Although portions of the study design were changed, these changes did not significantly reduce the validity

of the findings. I also included in this section an analysis of the research data--with both descriptive statistics and validity and correlation.

My analysis of the initial data from the conservative and liberal group survey (Appendix C survey) showed that some of the statements had low predictive values for overall scores. I therefore modified those questions which did not differentiate well. The new survey, shown in Appendix D, was given to the NWC students and reflects those changes.

The original survey instrument contained 30 statements and 12 word pairs. However, my analysis of initial data from the NWC group showed that word pairs had the least predictive values of any survey items. I subsequently dropped these word pairs from the final survey instrument, presented in Appendix E, and administered it to a representative ICAF group.

Additionally, my analysis of the initial data from the NWC group showed some of the statements still had low predictive values. I deleted those statements which clearly had the smallest predictive values. I developed new statements for the survey instrument to replace the "weak" ones and added those to the final survey instrument given to the ICAF group.

My original sampling plan was designed to use a random sample of workers in the headquarters offices of nationally recognized conservative and liberal groups. I wanted a sample size equal to

or greater than 30 for each group. However, several groups were reluctant to participate in my study and I ended up with just two groups.

I received 7 replies from the liberal group and 11 replies from the conservative group. These sample sizes are too small to be statistically valid. However, these results did provide insight into the design of the survey instrument statements--insight used to further refine the survey instrument.

I was unable to completely account for the disappointing response to my survey of liberal and conservative groups. However, I believe--based on conversations with representatives of several groups--they were reluctant to participate in a survey measuring dogmatic thinking. It appeared they feared I might use the data to somehow expose their organization to ridicule or embarrassment.

It is also possible the survey respondents felt some antipathy toward the research and the U. S. military. I had evidence of this when one respondent from the liberal organization returned an unmarked answer sheet to me with the following note: "Sorry, but I cannot in good conscience fill this thing out. I'm not going to help the military more effectively train their minions."

Data Analysis

Review of Descriptive Statistics

The descriptive statistics of range, mean, and standard deviation

for each sample group are shown below. While the sample sizes of the conservative and liberal groups were small, the extreme range of the responses was an indicator the survey statements were measuring differences. Further, the direction of the scores was as predicted--that is, conservatives scored with a positive (+) high mean and liberals scored with a negative (-) high mean.

The sample size of the NWC was 64, large enough to provide statistically significant results. Additionally, while the mean shows a very slightly liberal, non-dogmatic average for the group, the range and standard deviation of scores shows that probable dogmatic thinkers were identified by the survey statements.

The size of the final group to take the survey, the ICAF seminar group, was 32. Their scores are shown in the row labeled ICAF Group in Table 1. The range of scores is large, as is the standard deviation. These scores indicate that the survey statements were measuring differences.

TABLE 1
TABLE OF DESCRIPTIVE STATISTICS

SAMPLE GROUP	RANGE	MEAN	STANDARD DEVIATION
CONSERVATIVES	+5 to +72	+37	26.76
LIBERALS	-48 to -88	-72	13.04
NWC	-44 to +59	-.10	24
ICAF GROUP	-23 to +72	+12.2	22.23

Validity and Correlation

As noted earlier, my research effort sought to measure the validity of the Opinion Survey instrument, in total, and the validity of each survey statement. Stated another way, I wanted to know how useful or appropriate each survey statement was in predicting or inferring an overall high dogmatic tendency. I wanted to measure the contribution each statement made toward predicting each respondent's overall score.

It's logical to assume that as the "predictability usefulness" of each statement increased, the overall "predictability usefulness" of the survey would increase. Thus, when all the survey statements were examined, I sought statements which strongly predicted or inferred dogmatic tendency and covered a range of significant national issues. Garrett notes,

"The term correlation refers to the degree of correspondence

or relationship between two sets of test scores or other variable quantities. Degree of correspondence is expressed by the coefficient of correlation (called r) along a scale which extends from 1.00 through zero to -1.00. A coefficient of 1.00 denotes perfect relationship: a theoretical upper limit approached but rarely reached with real data. An $r = .00$ implies no true relation, whereas an r of -1.00 indicates perfect but *inverse* relationship. Between 1.00 and -1.00 different amounts of correlation are expressed by such coefficients as .60, .00, .20, -.30, etc. (8:88)."

I used a SPSS computer package to perform the calculations for the Pearson product-moment correlation analysis. I calculated the correlation coefficients by utilizing the correlation of an respondent's score on individual statements against that same respondent's total score, i.e., correlation of statement 1 with the total, correlation of statement 2 with the total, etc.

The following table shows the correlation coefficient for each survey statement from the final survey instrument (appendix E) I gave to the ICAF group. The first set of correlation coefficients is shown with the statements ranked in numerical order. The second set of correlation coefficients is ranked by the predictive magnitude of each survey statement.

Level of Significance Decision Rule

The correlation coefficients ranged from a high of .671 to a low of a negative or minus -.142. For the purposes of this research, a correlation coefficient equal to or greater than .25 was deemed sufficiently robust for including a statement in the final Opinion Survey version. All but five of the final survey statements surpassed this threshold. The failure of these five

statements to support the predicted relationship may be due to any one or a combination of at least three possible reasons:

- the statement didn't generate a sufficiently strong emotional or dogmatic response,
- respondents might have rejected the "opinionation acceptance" and "opinionation rejection" element deliberately built into each statement,
- ICAF respondent's answers might have been skewed by earlier exposure to a similar survey (Dr. John's initial survey).

TABLE 2

TABLE OF CORRELATION COEFFICIENTS

STATEMENT NUMBER	CORRELATION COEFFICIENT	CORRELATION COEFFICIENT	STATEMENT NUMBER
1	.433	.671	25
2	.449	.635	5
3	.540	.629	4
4	.629	.623	12
5	.635	.618	10
6	.520	.592	20
7	-.142	.557	22
8	.427	.540	3
9	.254	.520	6
10	.618	.518	23
11	.437	.495	19
12	.623	.489	26
13	.377	.470	24
14	-.044	.449	16
15	.418	.449	2
16	.449	.445	21
17	.377	.437	11
18	.256	.433	1
19	.495	.427	8
20	.592	.418	15
21	.445	.377	17
22	.557	.377	13
23	.518	.286	28
24	.470	.256	18
25	.671	.254	9
26	.489	.103	30
27	-.020	.099	29
28	.286	-.020	27
29	.099	-.044	14
30	.103	-.142	7

ICAF respondents, in fact, said that they disliked the "opinionation acceptance" and "opinionation rejection" features of the survey statements. Many ICAF respondents said they felt each statement asked them to agree or disagree with two different elements in each statement. That caused some difficulty for them in deciding whether to agree or disagree with various statements.

ICAF respondent's may have moderated their responses due to their knowledge of what the survey measured. They knew--because they had already taken Dr. John's version--that the survey was designed to measure dogmatism. Some respondents hinted that since one goal of the ICAF experience is to reduce dogmatic tendencies in ICAF students, they may have intentionally reduced the strength of their answers to particular statements.

The statements which did not surpass the .25 correlation coefficient threshold were statement numbers: 7, 14, 27, 29, and 30. Three of those statements, numbers 7, 14, and 30 were also used in the survey given to the NWC group. The correlation coefficients for those statements in the NWC analysis were:

<u>Question</u>	<u>Correlation Coefficient</u>
7	.423
14	.319
30	.550

Because the correlation coefficients for these statements in the NWC survey were above the .25 threshold, I decided to retain them in the survey recommended for next year's ICAF class. I did

modify question 14 to make its "opinionation rejection" element less strident. Specifically, "Anyone with a brain knows" was changed to "Clearly".

Statements 27 and 29, however, were new statements in the ICAF survey. They had replaced other statements in previous surveys which had low correlation coefficients. Given the resulting low correlation coefficients, both of these statements have been rewritten once again for the survey recommended for next year's ICAF class. That survey is found in Appendix G.

The remaining statement correlation coefficients in Table 2 clearly support the associations expected. All demonstrated the expected direction of correlation and all surpassed my level of significance decision rule. In general, then, the individual statements support the overall validity of the survey. Since the individual statements appear to measure dogmatic tendency, one can infer that the survey itself also measures dogmatic tendency.

SECTION V

CONCLUSIONS AND RECOMMENDATIONS

One goal of the ICAF program is to provide students with feedback on their decisionmaking and problem solving skills. Clearly, the goal is to enable students to capitalize on their strengths and to compensate for their weaknesses. This feedback, however, is only useful if the students believe the feedback is valid.

A review of the literature on decisionmaking indicated that one of the biggest barriers to effective thinking is dogmatism. Dogmatism is a particularly insidious barrier to effective thinking because it is normally unrecognized as a thinking habit or, if recognized, is not normally viewed as a weakness by the dogmatic individual. Feedback about dogmatic tendency has, in past ICAF classes, been challenged by students--especially, by those who scored high on the dogmatism scale.

Students complained that the dogmatism measurement instrument, the ICAF Opinion Survey, was ambiguous and dated. The fact that the survey had never been given to a group--other than ICAF and NWC students--increased the level of concern about its validity. With that concern in mind, this study:

- revised the opinion survey and
- gave the new opinion survey to groups outside of ICAF and NWC.

Research Summary

I reviewed the ICAF Opinion Survey results from 1989-1992. Using that data, I kept those statements which best differentiated conservative and liberal opinions and had the highest opinion strength correlation. After revising statements which seemed ambiguous or dated, I developed a new, 30 statement opinion survey. I also included 12 word pairs based on the MBTI model. Thus, my initial survey had a total of 42 response items.

- That initial survey was given to the Washington D.C. based headquarters personnel of a nationally recognized conservative group and liberal group. My analysis of this survey showed some of the statements failed to strongly predict dogmatic thinking, as measured by the respondents' overall scores. I subsequently changed or deleted those statements which were poor predictors.

Next I gave my revised survey to a group of 64 NWC students. Again I analyzed results and changed or eliminated those statements which failed to support a high correlation with overall respondent scores. Additionally, since the word pairs failed to show a significant correlation with respondent final overall scores, I dropped them from the survey. That analysis led to an updated survey I administered to a group of 32 ICAF students.

- Analysis of these survey results showed that 25 of the 30 statements had high correlations with the respondents overall scores. Taken individually these 25 statements measured dogmatic tendency as correlated with a respondent's overall score. Three other statements showed high correlation in the NWC survey and low correlation in the ICAF survey. Since results on these three statements were mixed, they were also included in the survey recommended for use by next year's ICAF class. The remaining two questions were rewritten.

Conclusions

ICAF students will assume leadership roles in the U.S. military and other federal government agencies. As such, they need to have highly developed decisionmaking skills. One of the ways to develop better decisionmaking skills is to understand the barriers to one's own personal effective thinking. Dogmatic thinking is one of those barriers--an insidious and destructive one stifling openness to new ideas and information.

The feedback provided by the ICAF Opinion Survey--if it is accepted by students as valid--can be the first step in awareness and correction of dogmatic thinking.

The new Opinion Survey, recommended for use by ICAF's Class of 1994, is an instrument--newly tested and validated--which can identify the existence of dogmatic tendency and accurately measure its strength. The statements used in the final survey, with the exception of the final two revised items, were validated by accepted statistical measurement and analysis on a variety of sample groups. Survey statements, taken individually and as a whole, are good predictors of dogmatic tendency.

Thus, we can have a high degree of confidence that a **high** positive (+) or negative (-) score indicates the survey respondent is a dogmatic thinker. A positive score indicates a conservative tendency and a negative score indicates a liberal

tendency. High scores in either direction should prompt a review of thinking patterns by individual students.

Recommendations

Opinion surveys are, by their very nature, topical. That is, the issues which generate the most controversy today may become "old news" tomorrow and generate only moderate opinions and feelings.

For that reason, I recommend the following:

- After the survey is given to the 1994 ICAF students, their answers should be analyzed using the method described in Section IV. Statements which fail to show high correlation (predictability) should be revised. Particular attention should be given to statements 7, 14, 27, 29, and 30.
- Some of the statements currently used in the survey (like the one regarding Jane Fonda's "traitorous" behavior in Vietnam) have very high correlations for current ICAF classes; however, as their subject matter becomes less relevant (more dated) to succeeding classes, the statements may lose their value. **Survey results should be monitored each year** to detect downward trends in statement correlation strength. When appropriate, new statements should be added.
- Future revisions should examine statement mix. I found that social issues generated more controversy than did economic and political issues. That may change in the future and statement mix should be updated to reflect those changes.

Since the opinion survey traditionally generates a great deal of controversy with ICAF students, I recommend SDM instructors explain to their classes how the survey was developed, tested and validated. A summary explaining my research project and its outcome is provided in Appendix H. I recommend this summary be provided to SDM faculty. I also recommend SDM instructors

explain Rokeach's "opinionation rejection" and "opinionation acceptance" theory and highlight its impact on statement design.

Finally, I recommend ICAF continue to use the Opinion Survey to measure dogmatic tendency. Dogmatism is a barrier to effective, logical thinking. Once students become aware of and sensitive to the rigidity in their thinking, they may choose to become more open and objective thinkers. That goal is worth the time and effort it takes to administer, score, and explain the Opinion Survey.

APPENDICES

APPENDIX A
ROKEACH'S OPINIONATION SCALE

THE MEASUREMENT OF OPEN AND CLOSED SYSTEMS

Table 4.1

The Opinionation Scale, American Version—Form C

Left opinionation	Right opinionation
OPINIONATED REJECTION	
<ol style="list-style-type: none"> 1. It's just plain stupid to say that it was Franklin Roosevelt who got us into the war. 2. A person must be pretty stupid if he still believes in differences between the races. 3. There are two kinds of people who fought Truman's Fair Deal program: the selfish and the stupid. 4. A person must be pretty short-sighted if he believes that college professors should be forced to take special loyalty oaths. 5. It's the people who believe everything they read in the papers who are convinced that Russia is pursuing a ruthless policy of imperialist aggression. 6. It's mainly those who believe the propaganda put out by the real-estate interests who are against a federal slum clearance program. 7. A person must be pretty gullible if he really believes that the Communists have actually infiltrated into government and education. 8. It's mostly those who are itching for a fight who want a universal military training law. 9. It is very foolish to advocate government support of religion. 10. Only a simple-minded fool would think that Senator McCarthy is a defender of American democracy. 	<ol style="list-style-type: none"> 21. It's simply incredible that anyone should believe that socialized medicine will actually help solve our health problems. 22. A person must be pretty ignorant if he thinks that Eisenhower is going to let the "big boys" run this country. 23. It's the fellow travellers or Reds who keep yelling all the time about Civil Rights. 24. It's the radicals and labor racketeers who yell the loudest about labor's right to strike. 25. It is foolish to think that the Democratic Party is really the party of the common man. 26. You just can't help but feel sorry for the person who believes that the world could exist without a Creator. 27. It's usually the trouble-makers who talk about government ownership of public utilities. 28. Only a misguided idealist would believe that the United States is an imperialist warmonger. 29. It's mostly the noisy liberals who try to tell us that we will be better off under socialism. 30. It's the agitators and left-wingers who are trying to get Red China into the United Nations.

THE THEORY AND MEASUREMENT OF BELIEF SYSTEMS

Left opinionation

Right opinionation

OPINIONATED ACCEPTANCE

11. It's perfectly clear that the decision to execute the Rosenbergs has done us more harm than good.
12. Any person with even a brain in his head knows that it would be dangerous to let our country be run by men like General MacArthur.
13. The truth of the matter is this! It is big business which wants to continue the cold war.
14. Make no mistake about it! The best way to achieve security is for the government to guarantee jobs for all.
15. It's perfectly clear to all decent Americans that Congressional Committees which investigate communism do more harm than good.
16. Thoughtful persons know that the American Legion is not really interested in democracy.
17. It's perfectly clear to all thinking persons that the way to solve our financial problem is by a soak-the-rich tax program.
18. It's all too true that the rich are getting richer and the poor are getting poorer.
19. History clearly shows that it is the private enterprise system which is at the root of depressions and wars.
20. Anyone who's old enough to remember the Hoover days will tell you that it's a lucky thing Hoover was never re-elected.
31. Any intelligent person can plainly see that the real reason America is rearming is to stop aggression.
32. Plain common sense tells you that prejudice can be removed by education, not legislation.
33. Anyone who is really for democracy knows very well that the only way for America to head off revolution and civil war in backward countries is to send military aid.
34. History will clearly show that Churchill's victory over the Labour Party in 1951 was a step forward for the British people.
35. The American rearmament program is clear and positive proof that we are willing to sacrifice to preserve our freedom.
36. This much is certain! The only way to defeat tyranny in China is to support Chiang Kai-Shek.
37. It's already crystal-clear that the United Nations is a failure.
38. A study of American history clearly shows that it is the American businessman who has contributed most to our society.
39. Even a person of average intelligence knows that to defend ourselves against aggression we should welcome all help—including Franco Spain.
40. Anyone who knows what's going on will tell you that Alger Hiss was a traitor who betrayed his country.

APPENDIX B
DR. JOHNS' 1993 ICAF OPINION SURVEY

GENERAL INSTRUCTIONS

1. Code all answers on the answer sheet provided (completely fill bubbles and erase carefully).
2. Code your full name in the section marked "name."
3. Code all four digits of your Student ID Number in the last four columns of the "Identification Number" section.

OPINION SURVEY

The following is a survey of what the general public thinks and feels about a number of important social and personal questions. The best answer to each statement below is your **personal opinion**. We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others; whether you agree or disagree with any statement, you can be sure that many people feel the same as you do.

Use this scale to indicate how much you agree or disagree with each of the following statements.

a-----b-----c-----d-----e-----f

I agree very much	I agree on the whole	I agree a little	I disagree a little	I disagree on the whole	I disagree very much
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1. It's just plain stupid to say that Jimmy Carter weakened our national security.
2. It's simply incredible that anyone believes that socialized medicine will actually help solve our health problems.
3. A person must be pretty ignorant if he does not know that Reagan let the "big boys" run this country.
4. It's the radicals and labor racketeers who yell the loudest about labor's right to strike.
5. There are two kinds of people who fight social spending: the selfish and the uninformed.
6. It is foolish to think that the Democratic Party is really the party of the common man.

7. It's the compassionate and caring people who fight for Civil Rights.
8. Only a misguided idealist would believe that the United States is an imperialist warmonger.
9. A person must be pretty short-sighted if he believes that college professors should be forced to take special loyalty oaths.
10. It's usually the trouble-makers who argue for government ownership of public utilities.
11. Only a simple-minded fool would think that Oliver North was a defender of American democracy.
12. It's mostly the noisy liberals who try to tell us that we will be better off under socialism.
13. It's perfectly clear that the decision to bomb Libya has done us more harm than good.
14. It's the agitators and left-wingers who are trying to give more power to the United Nations.
15. Any person with a brain in his head knows that it would be dangerous to let our country be run by men like Ed Meese.
16. Any Intelligent person can plainly see that the real reason America rearmed was to stop aggression.
17. Plain common sense tells you that prejudice and discrimination cannot be removed by education alone; there must be strong civil rights legislation.
18. History will clearly show that Thatcher's victory over the Labor Party for a long period was a step forward for the British people.
19. The truth of the matter is this: It is big business which wants to continue the cold war.
20. The American rearmament program is clear and positive proof that we are willing to sacrifice to preserve our freedom.
21. It's all too true that the rich are getting richer and the poor are getting poorer.
22. This much is certain! The only way to have defeated tyranny in Nicaragua was to support the Contras.
23. Even a person of average intelligence knows that we should not welcome help from military dictatorships even to defend ourselves against aggression.
24. It's already crystal-clear that the United Nations is a failure.
25. The large budget deficits in the 1980s can be laid squarely in the lap of Ronald Reagan!

26. Anyone who knows what's going on will tell you that Jane Fonda was a traitor who betrayed her country.
27. It is nonsense to claim that the mass media in the United States are overwhelmingly on the extreme left of the political spectrum.
28. Ronald Reagan was one of the greatest presidents in U.S. history.
29. All U.S. citizens should have access to full and equal medical care, regardless of the costs.
30. The large budget deficits in the 1980s can be laid squarely in the lap of the Democratic Congress!
31. The Savings and Loan mess is an outcome, pure and simple, of the Reagan economic policies of de-regulation and promotion of risk-taking entrepreneurship.
32. The U.S. must continue to take unilateral military action because we are the only country with the power to keep world order.
33. The only sensible policy for the U.S. in the "New World Order" is to work through the United Nations when military force is required.
34. The Senate opposition to the Reagan and Bush nominees to the Supreme Court, e.g., Bork and Thomas, is purely partisan politics.
35. To maintain military expenditures as proposed by DOD is foolish, considering our current deficit problems.
36. The Savings and Loan problem is due to congressional protection of special interests which have made large contributions to particular congressmen, such as former House Speaker Jim Wright.
37. The Senate has a constitutional duty to oppose Supreme Court nominees who are extreme conservatives.
38. The liberal congress, press and peaceniks are threatening the security of this country by calling for drastic cuts in military spending.
39. The U.S. Federal Government should pass legislation that ensures that all its citizens have decent housing, food and medical care.
40. People who opposed U.S. military force in Desert Storm should see beyond a shadow of a doubt that they were wrong; otherwise, they are just stubborn.

APPENDIX C

RESEARCH SURVEY GIVEN TO LIBERAL/CONSERVATIVE GROUPS

Hello. My name is Colonel Sharla Cook and I developed the attached survey. Before asking you to take it, I wanted to explain its purpose and the reason I'd like you to take it.

I'm a student at the Industrial College of the Armed Forces, a ten-month, executive level course for senior military and civilian government leaders. Part of our curriculum involves strategic decision making. A portion of that course involves a review of our personal thinking habits. We are asked to take a survey, at the beginning of the school year, to measure our openness. However, the current survey is badly out of date and therefore ineffective. So, as part of a student research project, I am trying to update and validate it.

My new survey presents a series of statements about current social issues. I tried to choose issues which seem to engender the greatest levels of controversy and differentiation. That's where I need your help.

In order to establish some degree of confidence in the validity of the questions, I would like to get a nationally recognized liberal and conservative group to take the survey. Your staff has a large enough number of people for my purposes and your responses will be most helpful. Incidentally, in my research report, the groups who take the survey will not be identified by name, just as a nationally recognized liberal/conservative group.

I know your time is valuable and I really appreciate your cooperation.

Thanks.



Sharla J. Cook
Colonel, USAF

GENERAL INSTRUCTIONS

Code all answers on the answer sheet provided (completely fill bubbles and erase carefully).

OPINION SURVEY

The following is a survey of what the general public thinks and feels about a number of important social and personal questions. The best answer to each statement below is your **personal opinion**. We have tried to cover many different and opposing points of view; you may find your self agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others; whether you agree or disagree with any statement, you can be sure that many people feel the same as you do.

Use this scale to indicate how much you agree or disagree with each of the following statements.

a-----b-----c-----d-----e-----f

I agree very much	I agree	I agree a little	I disagree a little	I disagree	I disagree very much
----------------------	---------	---------------------	------------------------	------------	-------------------------

1. It's just plain naive to say that liberals weaken our national security.
2. Simple common sense tells you government can't afford to guarantee basic medical care to everyone.
3. A person must be pretty ignorant if he does not know that conservatives let the "big boys" run this country.
4. Informed watchers of the Congress know it was the "tax and spend Democrats" who created the nation's huge budget deficit.
5. It's the compassionate and caring people who carry the battle for AIDS research funding.
6. Clearly, the "cultural elite" produce consistently left-wing, anti-family programming for television and the movies.
7. It's obvious that capital punishment is state-sanctioned killing for revenge.
8. The "feminists" want it both ways--they want to serve in the military; yet want to punish any man who tells an off-color joke in the office.
9. Barring women from fighter cockpits isn't based on ability or readiness but on outdated stereotypes and bigoted "feelings."

10. It's the hard-core, ultra-liberal, anti-family kooks who push lifting the ban on gays in the military.
11. It's pure unadulterated nonsense to suggest the "media" has a left-wing bias.
12. Anyone who knows what happened will tell you Jane Fonda was a traitor who betrayed her country.
13. Only a simple minded fool would think that Oliver North was a defender of American democracy.
14. Anyone with a brain knows that being pro-abortion isn't about choice--it's about being anti-life.
15. History shows that prejudice and discrimination can't be removed by education alone; there must be strong civil rights legislation.
16. Ronald Reagan was one of the greatest Presidents in U.S. history.
17. The Senate has a constitutional duty to oppose Supreme Court nominees who are extremists.
18. Saving spotted owls and worrying about the ozone, global warming, and acid rain are ruining our economy by driving people out of business.
19. The fanatics in the National Rifle Association have too much power. It's time for national gun control, now.
20. The demands made by the radical feminists for affirmative action and government child care are incompatible with American values.
21. The federal government should guarantee all its citizens have decent housing, food and medical care.
22. We should thank God for Dan Quayle , Pat Robertson, and Phyllis Schlafly --they're saving family values.
23. It's all too true that the rich are getting richer and the poor are getting poorer.
24. Gays shouldn't be given special protection against discrimination because homosexuality is a decision to violate the laws of god and nature.
25. The savings and loan mess is the outcome, pure and simple, of the Reagan economic policies of de-regulation and promotion of risk-taking entrepreneurship.
26. The Senate opposition to the Clarence Thomas Supreme Court nomination was partisan politics, orchestrated by the radical feminists.
27. All U.S. citizens should have full and equal medical care, regardless of the costs.
28. The liberal Congress, national media and other radicals are threatening the security of our nation with their drastic cuts in military spending.

29. Maintaining military expenditures wanted by the Pentagon is foolish, especially considering other social needs and our massive deficit.
30. The cutting edge of the feminist, gender-neutral agenda has always been the assignment of women to military combat jobs. Simply put, it's stupid and wrong.

PART II. Which word in each pair appeals to you more? Think what the words mean, not how they look or how they sound.

- | | |
|------------------------|---------------------|
| 31. (A) adapt | (B) tried and true |
| 32. (A) authority | (B) intuition |
| 33. (A) flexible | (B) faithful |
| 34. (A) justice | (B) tolerance |
| 35. (A) free spirited | (B) disciplined |
| 36. (A) closed | (B) open |
| 37. (A) relative | (B) absolute |
| 38. (A) certainty | (B) theory |
| 39. (A) diverse | (B) straightforward |
| 40. (A) responsibility | (B) liberty |
| 41. (A) unconventional | (B) steadfast |
| 42. (A) responsibility | (B) rights |

APPENDIX D

RESEARCH SURVEY GIVEN TO NATIONAL WAR COLLEGE STUDENTS



NATIONAL DEFENSE UNIVERSITY
INDUSTRIAL COLLEGE OF THE ARMED FORCES
WASHINGTON, D. C. 20319-6000

REPLY TO
ATTENTION OF :

15 January 1993

Hello. My name is Colonel Kris Cook and I developed the attached survey. Before asking you to take it, I wanted to explain its purpose and the reason I'd like you to take it.

I'm a student at ICAF, or "Black and Decker U." Part of our curriculum involves strategic decision making. A portion of that course involves a review of our personal thinking habits--with an intent to identify patterns of thinking. We are asked to take a survey, at the beginning of the school year, to measure our openness. however, the current survey is out of date. So, as part of a student research project, I am trying to update and validate it.

My new survey presents a series of statements about current social issues. I tried to chose issues which seem to engender the greatest levels of controversy and differentiation. That's where I need your help.

In order to establish some degree of confidence in the validity of the questions, I would like to get a similar group of military and civilian senior-level executives to take the survey. The NWC student body is an ideal sample group.

I know your time is valuable. The survey is strictly voluntary; but, I could really use your help. If you'd just take a few minutes to fill in the answer sheet with a number two pencil, then put both it and the survey in the box provided in the mailroom, I'd really appreciate it. Thanks for your cooperation. I need your responses by 22 Jan 93.

Kris Cook
Kris Cook
Colonel, USAF

GENERAL INSTRUCTIONS

Code all answers on the answer sheet provided (completely fill bubbles and erase carefully).

OPINION SURVEY

The following is a survey of what the general public thinks and feels about a number of important social and personal questions. The best answer to each statement below is your **personal opinion**. We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others; whether you agree or disagree with any statement, you can be sure that many people feel the same as you do.

Use this scale to indicate how much you agree or disagree with each of the following statements.

a-----b-----c-----d-----e-----f

I agree very much	I agree on the whole	I agree a little	I disagree a little	I disagree on the whole	I disagree very much
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1. It's just plain ridiculous to say that Jimmy Carter weakened our national security.
2. It's simply incredible that anyone believes that socialized medicine will actually help solve our health problems.
3. People must be pretty ignorant if they do not know that Reagan let the "big boys" run this country.
4. Truly informed Americans understand it was the "tax and spend Democrats" who created the nation's huge budget deficit.
5. The truth of the matter is this: it's the compassionate and caring people who carry the battle for AIDS research funding.
6. Clearly, the liberal "cultural elite" should be blamed for producing consistently permissive, anti-family programming for television and the movies.
7. It's obvious that capital punishment is state-sanctioned killing for revenge.
8. The "feminists" want it both ways--they want to serve in the military; yet want to punish any man who tells an off-color joke on the flightline.

FOR ICAF INSTRUCTIONAL PURPOSES ONLY

9. The fanatics in the National Rifle Association have too much power. It's time for national gun control, now.
10. It's the hard-core ultra-liberal, anti-military wierdos who push lifting the ban on gays in the military.
11. It's pure unadulterated nonsense to suggest the "media" has a left-wing bias.
12. Anyone who knows what happened will tell you Jane Fonda was a traitor who betrayed her country.
13. Only the simple minded would think that Oliver North was a defender of American democracy.
14. Anyone with a brain knows that being pro-abortion isn't about choice--it's about being anti-life.
15. History shows that prejudice and discrimination can't be removed by education alone; there must be strong civil rights legislation and court ordered enforcement.
16. Ronald Reagan was one of the greatest Presidents in U.S. history.
17. The Senate has a constitutional duty to oppose Supreme Court nominees who are extremists.
18. Saving spotted owls and worrying about the ozone, global warming, and acid rain are ruining our economy by driving people out of business.
19. This much is certain--barring women from fighter cockpits isn't based on ability or readiness but on outdated stereotypes and bigoted "feelings."
20. The demands made by the radical feminists for affirmative action and government child care are incompatible with American values.
21. The federal government should guarantee all its citizens have decent housing, food and medical care.
22. We should thank God for Dan Quayle, Pat Robertson, and Phyllis Schlafly--they're saving the family values that the gays and feminists want to destroy.
23. It's all too true that the rich are getting richer and the poor are getting poorer.
24. Gays shouldn't be given special protection against discrimination because homosexuality is a decision to violate the laws of God and nature.
25. The savings and loan mess is the outcome, pure and simple, of the Reagan economic policies of de-regulation and promotion of risk-taking entrepreneurship.
26. The Senate opposition to the Clarence Thomas Supreme Court nomination was partisan politics, orchestrated by the radical feminists.
27. All U.S. citizens should have full and equal medical care, regardless of the costs.

28. The liberal Congress, national media and other radicals are threatening the security of our nation with their drastic cuts in military spending.
29. It's obvious that maintaining military expenditures wanted by the Pentagon is foolish, especially considering other social needs and our massive deficit.
30. The cutting edge of the feminist, gender-neutral agenda has always been the assignment of women to military combat jobs. Simply put, it's stupid and wrong.

PART II. WHICH WORD IN EACH PAIR APPEALS TO YOU MORE? Think what the words mean, not how they look or how they sound.

- | | |
|----------------------------|---------------------|
| 31. (A) fresh | (B) tried and true |
| 32. (A) authority | (B) liberty |
| 33. (A) flexible | (B) faithful |
| 34. (A) justice | (B) tolerance |
| 35. (A) free spirited | (B) disciplined |
| 36. (A) fundamental truths | (B) novel ideas |
| 37. (A) relative | (B) absolute |
| 38. (A) certainty | (B) theory |
| 39. (A) diverse | (B) straightforward |
| 40. (A) traditional | (B) unconventional |
| 41. (A) challenging | (B) steadfast |
| 42. (A) responsibilities | (B) rights |

APPENDIX E
RESEARCH SURVEY GIVEN TO ICAF GROUP

GENERAL INSTRUCTIONS

Code all answers on the answer sheet provided (completely fill bubbles and erase carefully).

OPINION SURVEY

The following is a survey of what the general public thinks and feels about a number of important social and personal questions. The best answer to each statement below is your **personal opinion**. We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others; whether you agree or disagree with any statement, you can be sure that many people feel the same as you do.

Use this scale to indicate how much you agree or disagree with each of the following statements.

a-----b-----c-----d-----e-----f

I agree very much	I agree on the whole	I agree a little	I disagree a little	I disagree on the whole	I disagree very much
----------------------	-------------------------	---------------------	------------------------	----------------------------	-------------------------

1. Saying that Jimmy Carter weakened our national security is just plain ridiculous.
2. It's simply incredible that anyone believes that socialized medicine will actually help solve our health problems.
3. People must be pretty ignorant if they do not know that Reagan let the big business interests run this country.
4. Truly informed Americans understand it was the "tax and spend Democrats" who created the nation's huge budget deficit.
5. The truth of the matter is this: it's the compassionate and caring people who carry the battle for AIDS research funding.
6. Clearly, the liberal "cultural elite" should be blamed for producing consistently permissive, anti-family programming for television and the movies.
7. It's obvious that capital punishment is state-sanctioned killing for revenge.
8. The "feminists" want it both ways--they want to serve in the military; yet want to punish any man who tells an off-color joke on the flightline.

FOR ICAF INSTRUCTIONAL PURPOSES ONLY

9. The fanatics in the National Rifle Association have too much power. It's time for national gun control, now.
10. It's the hard-core ultra-liberal, anti-military wierdos who push lifting the ban on gays in the military.
11. It's pure unadulterated nonsense to suggest the "media" has a left-wing bias.
12. Anyone who knows what happened will tell you Jane Fonda was a traitor who betrayed her country.
13. Only the simple minded would think that Oliver North was a defender of American democracy.
14. Anyone with a brain knows that being pro-abortion isn't about choice--it's about being anti-life.
15. Thoughtful people know that prejudice and discrimination can't be removed by education alone; there must be strong civil rights legislation and court ordered enforcement.
16. The truth of the matter is this - - Ronald Reagan was one of the greatest Presidents in U.S. history.
17. Its the male chauvinists who object to Hillary Clinton's active role in her husband's administration.
18. Saving spotted owls and worrying about the ozone, global warming, and acid rain are ruining our economy by driving people out of business.
19. This much is certain--barring women from fighter cockpits isn't based on ability or readiness but on outdated stereotypes and bigoted "feelings."
20. Clearly, the demands made by the radical feminists for affirmative action and government child care are incompatible with American values.
21. It's perfectly clear - - the federal government should guarantee that all its citizens have decent housing, food and medical care.
22. We should thank God for Dan Quayle, Pat Robertson, and Phyllis Schlafly--they're saving the family values that the gays and feminists want to destroy.
23. Republicans always squeal when you talk about taxing the rich. They've never been interested in helping the poor.
24. Gays shouldn't be given special protection against discrimination because homosexuality is a decision to violate the laws of God and nature.
25. The savings and loan mess is the outcome, pure and simple, of the Reagan/Bush economic policies.
26. No question - - the Senate opposition to the Clarence Thomas Supreme Court nomination was partisan politics, orchestrated by the radical feminists.

27. Thinking Americans agree -- the way to solve our financial problem is a "soak-the-rich" tax program.
28. The liberal Congress, national media and other radicals are threatening the security of our nation with their drastic cuts in military spending.
29. It will be a great day when education gets all the funding it needs and the Air Force has to hold a bake sale to buy a bomber.
30. The cutting edge of the feminist, gender-neutral agenda has always been the assignment of women to military combat jobs. Simply put, it's stupid and wrong.

APPENDIX F
STATEMENT MIX ANALYSIS

STATEMENT MIX ANALYSIS

Opinion survey statements were designed to cover a broad range of issues within social, political and economic areas.

Additionally, statements were designed to be either "opinionation acceptance" or "opinionation rejection" type statements. The statements, identified by number for each category, are shown below.

Opinionation Rejection

1, 2, 3, 6, 8, 9, 10, 11, 13, 17,
18, 23, 24, 28, and 30

Opinionation Acceptance

4, 5, 7, 12, 14, 15, 16, 19, 20,
21, 22, 25, 26, 27, and 29

Social Issues

5, 6, 7, 8, 9, 10, 14, 19, 20,
22, 24, and 30

Political Issues

1, 4, 11, 12, 13, 15, 16, 17,
26, and 28

Economic Issues

2, 3, 18, 21, 23, 25, 27,
and 29

APPENDIX G
RESEARCH RECOMMENDED SURVEY FOR ICAF'S 1994 CLASS

GENERAL INSTRUCTIONS

1. Code all answers on the answer sheet provided (completely fill bubbles and erase carefully).
2. Code your full name in the section marked name.
3. Code all four digits of your student ID number in the last four columns of the "identification number" section.

OPINION SURVEY

The following is a survey of what the general public thinks and feels about a number of important social and personal questions. The best answer to each statement below is your personal opinion. We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others; whether you agree or disagree with any statement, you can be sure that many people feel the same as you do.

Use this scale to indicate how much you agree or disagree with each of the following statements.

a-----b-----c-----d-----e-----f

I agree	I agree	I agree	I disagree	I disagree	I disagree
very much	on the whole	a little	a little	on the whole	very much

1. Saying that Jimmy Carter weakened our national security is just plain ridiculous.
2. It's simply incredible that anyone believes that socialized medicine will actually help solve our health problems.
3. People must be pretty ignorant if they do not know that Reagan let the big business interests run this country.
4. Truly informed Americans understand it was the "tax and spend Democrats" who created the nation's huge budget deficit.
5. The truth of the matter is this: it's the compassionate and caring people who carry the battle for AIDS research funding.
6. Clearly, the liberal "cultural elite" should be blamed for producing consistently permissive, anti-family programming for television and the movies.
7. It's obvious that capital punishment is state-sanctioned killing for revenge.
8. The "feminists" want it both ways--they want to serve in the military; yet want to punish any man who tells an off-color joke on the flightline.

9. The fanatics in the National Rifle Association have too much power. It's time for national gun control, now.
10. It's the hard-core ultra-liberal, anti-military wierdos who push lifting the ban on gays in the military.
11. It's pure unadulterated nonsense to suggest the "media" has a left-wing bias.
12. Anyone who knows what happened will tell you Jane Fonda was a traitor who betrayed her country.
13. Only the simple minded would think that Oliver North was a defender of American democracy.
14. Clearly, being pro-abortion isn't about choice--it's about being anti-life.
15. Thoughtful people know that prejudice and discrimination can't be removed by education alone; there must be strong civil rights legislation and court ordered enforcement.
16. The truth of the matter is this - - Ronald Reagan was one of the greatest Presidents in U.S. history.
17. Its the male chauvinists who object to Hillary Clinton's active role in her husband's administration.
18. Saving spotted owls and worrying about the ozone, global warming, and acid rain are ruining our economy by driving people out of business.
19. This much is certain--barring women from fighter cockpits isn't based on ability or readiness but on outdated stereotypes and bigoted "feelings."
20. Clearly, the demands made by the radical feminists for affirmative action and government child care are incompatible with American values.
21. It's perfectly clear - - the federal government should guarantee that all its citizens have decent housing, food and medical care.
22. We should thank God for Dan Quayle, Pat Robertson, and Phyllis Schlafly-- they're saving the family values that the gays and feminists want to destroy.
23. Republicans always squeal when you talk about taxing the rich. They've never been interested in helping the poor.
24. Gays shouldn't be given special protection against discrimination because homosexuality is a decision to violate the laws of God and nature.
25. The savings and loan mess is the outcome, pure and simple, of the Reagan/Bush economic policies.
26. No question - - the Senate opposition to the Clarence Thomas Supreme Court nomination was partisan politics, orchestrated by the radical feminists.

27. Its only fair, the way to solve our financial problem is a "soak-the-rich" tax program.
28. The liberal Congress, national media and other radicals are threatening the security of our nation with their drastic cuts in military spending.
29. It will be a great day when education gets all the funding it needs and the Navy has to hold a bake sale to buy an aircraft carrier.
30. The cutting edge of the feminist, gender-neutral agenda has always been the assignment of women to military combat jobs. Simply put, it's stupid and wrong.

APPENDIX H
RESEARCH SUMMARY REPORT FOR SDM FACULTY

THE 1994 ICAF OPINION SURVEY

STUDENT RESEARCH SUMMARY REPORT FOR SDM FACULTY

Hi! My name is Kris Cook, I'm a USAF Colonel and was a student in the 1993 ICAF class. Part of our early introduction to ICAF was the Opinion Survey--most of my classmates hated it. Many thought it was ambiguous, asked two questions in each statement, was outdated and/or didn't measure what it purported to measure. Surely we weren't **dogmatic**! Anyway, I decided to revise, update and validate the Opinion Survey as my research project.

I thought it might be useful to provide the SDM faculty with a summary of my research, in case next year's class had a reaction similar to my class. They may not like the survey or their scores any better; but at least you can fill them in on how the 1994 survey was developed.

I reviewed ICAF Opinion Survey results from 1989-1992. Using that data, I kept those statements best differentiating conservative and liberal opinions and those which had the highest correlations with the respondents' overall survey scores. After revising those statements which seemed ambiguous or dated, I selected 30 statements for a pilot opinion survey.

This survey was given to the Washington D.C. based, headquarters personnel of a nationally recognized conservative group and liberal group. My analysis showed some of the statements failed to strongly predict dogmatic thinking. So, I changed or deleted those statements which were poor predictors.

Next, I gave my revised survey to a group of 64 NWC students. Again, I analyzed results and changed or eliminated those statements which were not good predictors. Then, I gave the new, revised survey to a sample group of ICAF students.

My analysis showed that 25 of the 30 statements were good predictors. Taken individually, these 25 statements measured dogmatic tendency. Three other statements were good predictors in the NWC survey but had significantly lower correlations in the ICAF survey. Since results were mixed, I left them in my proposed 1994 survey. The remaining two statements were completely rewritten.

The new Opinion Survey is an instrument--newly revised and validated--which can identify the existence of dogmatic tendency and accurately measure the conservative or liberal leanings. The statements used in the final survey, with the exception of the two completely revised ones, were validated by accepted statistical measurement and analysis on a variety of sample

groups. The Survey statements, taken individually, and as a whole, are good predictors of dogmatic tendency.

Thus, one can have a high degree of confidence that a high positive (+) or negative (-) score indicates that the survey respondent is a dogmatic thinker.

One note: both students and faculty have questioned why the survey statements are written as they are. The Opinion Survey was modeled on research done by Milton Rokeach. Rokeach included in each statement he developed for his survey a factor which he called "opinionation acceptance" or "opinionation rejection" Rokeach states:

"Opinionation rejection refers to a class of statements made by a speaker which imply that the speaker rejects a particular belief, and, at the same time, that he rejects people who accept it. Consider, for example, a person making the following statement: 'Only a simple-minded fool would say that God exists.' This statement gives us two kinds of information about the person making it: (1) It implies that the speaker rejects belief in God, and (2) he also rejects people who believe in God; they are 'simple minded fools.'

Opinionation acceptance refers to a class of statements that imply the speaker believes something and, along with this, accepts others who believe it too. Consider the example; 'Any intelligent person will tell you God exists.' This assertion also yields two kinds of information: (1) The person making it believes in God, and (2) he accepts those who agree with him as 'intelligent.' But notice the string attached to his accepting others. The statement carries the implication that you are no longer 'intelligent' at the moment you have a change of heart."

I included opinionation rejection and acceptance features into my survey statements because Rokeach found:

"The more closed the belief-disbelief system, the more will authority be seen as absolute and the more will people be accepted and rejected because they agree or disagree with one's belief-disbelief system."

Also, in developing survey statements, I read many of the journals and newsletters of liberal and conservative groups. They do, in fact, incorporate opinionation rejection and acceptance features into their editorials and articles.

I hope that this summary helps you understand how the 1994 Opinion Survey was developed, tested and validated. I also hope

that the explanation of opinionation acceptance and rejection is helpful in explaining statement design to students.

It is my opinion that the Opinion Survey is useful. Dogmatism is a barrier to effective, logical thinking. If students become aware of and sensitive to the rigidity in their thinking, they may choose to become more open and objective thinkers. That goal is, I think, worth the time and effort it takes to administer, score, and explain the Opinion Survey.

Good Luck!

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